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Evaporative Burner

Abstract

5 An evaporative burner that includes an igniter assembly, a swirler, an evaporation chamber, and a reverse throat. The reverse throat has raised ends that protrude into the evaporation chamber. The reverse throat in combination with the evaporation chamber and the swirler, facilitate the recirculation of air in the evaporation chamber such that a flame is stabilized near the evaporation chamber walls. This flame gradually evaporates the fuel in
10 the lining of the evaporation chamber. The fuel-air mixture results in a steady and uniformly distributed flame in the combustion chamber. This flame can heat uniformly the walls of the combustion chamber, and thus be applicable for high efficiency and low emissions applications. Furthermore, this burner can start and reach full burner power rapidly.